



STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME
SIWES



**ROLASOFT PROFESSIONAL COMPUTER & IT
COURSES VERSION 2.0 LATEST**

**SIWES Diploma in Internet of
Things (IoT)**

Become a job-ready IoT in 3-6 months!

Benefits of Studying with RolaSoft

✓ 1. Industry-Relevant Curriculum

Stay ahead with a syllabus designed by industry experts, focused on real-world Internet of Things (IoT).

✓ 2. Hands-On Training

Learn by doing — build real-time projects, full-scale Internet of Things (IoT).

✓ 3. Experienced Instructors

Gain insights from certified professionals and senior certified ethical hacker with years of teaching and industry experience.

✓ 4. Placement Assistance

Access job support services including resume building, mock interviews, and direct placement opportunities with partner companies.

✓ 5. Flexible Learning Modes

Choose between: **Online**, **Offline (at our center)**, or **Hybrid Classes**

Benefits of Studying with RolaSoft

✓ 6. Mini & Major Projects

Work on individual and group projects to strengthen your portfolio and impress future employers.

✓ 7. Certification Upon Completion

Earn a **Diploma Certificate** from **RolaSoft Technologies**, recognized by IT recruiters and employers.

✓ 8. Small Batch Size

Personalized attention and better interaction in small groups for an enhanced learning experience.

✓ 9. Affordable Fees & Installment Plans

Top-tier training at a reasonable cost, with flexible payment options.

✓ 10. Career-Oriented Skills You'll Gain at RolaSoft Technologies

RolaSoft ensures you're job-ready with the right tech stack and practical knowledge.

SIWES Overview

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SIWES (Student Industrial Work Experience Scheme) is a structured industrial training program designed for students in Nigerian tertiary institutions studying science, engineering, technology, and other professional courses. It is coordinated by the **Industrial Training Fund (ITF)** and serves as a bridge between academic knowledge and practical industry experience.

Typically conducted for a duration of **3–6 months**, SIWES places students in real work environments related to their field of study. During this period, they apply classroom theory to practical tasks and gain firsthand understanding of workplace expectations and professional practices.

Advantages of SIWES to Students

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Hands-On Experience: Provides real-world exposure and practical knowledge in the student's field.

Bridging the Skills Gap: Helps students connect academic theories with industry practices.

Career Readiness: Prepares students for post-graduate employment by developing technical and soft skills.

Professional Networking: Offers opportunities to build relationships with industry professionals.

Improved Employability: Enhances resumes/CVs with relevant work experience that employers value.

Understanding of Workplace Culture: Teaches students workplace ethics, teamwork, and communication.

Opportunity for Future Placement: Sometimes leads to job offers or future internships with the same organization.

SIWES Internet of Things (IoT) Course Details

- ✓ **Duration**
Three-Six (3-6) Months
- ✓ **Schedule**
Weekdays / Weekends
- ✓ **Learning Modes**
Online, Offline (at our center), or Hybrid Classes
- ✓ **Start Date**
New batches start every month — enroll now!
- ✓ **Eligibility**
No prior experience required

SIWES Internet of Things (IoT) – Program Details

Program Overview

The **Internet of Things (IoT)** course equips learners with the skills to develop smart, connected devices and systems that communicate over the internet. This includes working with sensors, microcontrollers (like Arduino and ESP32), networking protocols, cloud platforms, and data analytics.

The course combines hands-on hardware experience with cloud integration and software development, making it ideal for building smart home systems, industrial automation, and other real-time applications.

SIWES Internet of Things (IoT) - Target Audience & Prerequisites

Target Audience:

- ✓ Tech students, embedded developers, electronics enthusiasts, and aspiring IoT engineers, especially for SIWES or internships students.

Prerequisites:

- ✓ Basic electronics and programming (Python/C/C++) helpful but not mandatory.

SIWES Internet of Things (IoT) Course Curriculum

Module 1: Introduction to IoT

- ✓ What is IoT?
- ✓ History, trends, and real-world applications
- ✓ IoT architecture (Perception, Network, Application layers)
- ✓ Role of embedded systems, cloud, and AI in IoT

SIWES Internet of Things (IoT) Course Curriculum

Module 2: Sensors, Actuators & Microcontrollers

- ✓ Types of sensors (temperature, humidity, motion, gas, etc.)
- ✓ Actuators: motors, relays, servos
- ✓ Microcontrollers: Arduino, ESP8266, ESP32, Raspberry Pi
- ✓ Interfacing and circuit building basics

SIWES Internet of Things (IoT) Course Curriculum

Module 3: Communication Protocols

- ✓ Wired and wireless protocols: UART, I2C, SPI, HTTP, MQTT, CoAP
- ✓ Wi-Fi, Bluetooth, LoRa, ZigBee, NFC, and cellular IoT
- ✓ Choosing the right protocol for applications

SIWES Internet of Things (IoT) Course Curriculum

Module 4: IoT Programming & Development

- ✓ Programming with Arduino IDE, MicroPython
- ✓ Reading sensor data and controlling actuators
- ✓ Basic real-time system development
- ✓ Error handling and low-power operation

SIWES Internet of Things (IoT) Course Curriculum

Module 5: Networking and Connectivity

- ✓ Setting up Wi-Fi-enabled boards (ESP8266/ESP32)
- ✓ Networking basics: IP, DNS, ports
- ✓ Data transfer using HTTP and MQTT
- ✓ Building a smart sensor network

SIWES Internet of Things (IoT) Course Curriculum

Module 6: IoT and Cloud Integration

- ✓ Introduction to IoT cloud platforms (ThingSpeak, Blynk, Firebase, AWS IoT Core)
- ✓ Sending data from device to cloud
- ✓ Dashboards and remote device monitoring
- ✓ Real-time data visualization and alerts

SIWES Internet of Things (IoT) Course Curriculum

Module 7: Data Handling and Analytics

- ✓ Data logging and cloud storage
- ✓ Analyzing and processing IoT data
- ✓ Edge vs cloud computing
- ✓ Introduction to ML in IoT (e.g., anomaly detection)

SIWES Internet of Things (IoT) Course Curriculum

Module 8: IoT Security and Privacy

- ✓ Risks and challenges in IoT security
- ✓ Secure communication (encryption, TLS)
- ✓ Device authentication
- ✓ Best practices for firmware and cloud security

SIWES Internet of Things (IoT) Course Curriculum

Module 9: IoT Project Development

- ✓ System design: selecting sensors, microcontrollers, protocols
- ✓ Prototyping with hardware and software
- ✓ Debugging and troubleshooting

SIWES Final Capstone Project (End of 3-6 Months)

Students will complete an **industry-level project**:

- ✓ Build a full-scale IoT system (e.g., smart home, weather station, health monitor),
Integrate sensors, microcontroller, cloud dashboard

SIWES Internet of Things (IoT) - Certification Obtain

After completion of the program, the student will be awarded with a certificate:

SIWES Diploma in Internet of Things (IoT)

SIWES Internet of Things (IoT) - Roles After Completion

Graduates of this course can pursue the following roles:

- ✓ **IoT Developer / Engineer:** Design and develop connected devices and systems
- ✓ **Embedded Systems Engineer:** Code microcontroller firmware and hardware integration
- ✓ **IoT Cloud Engineer:** Manage cloud integration and data pipelines
- ✓ **IoT Security Analyst:** Ensure secure communications and data protection for IoT networks
- ✓ **Automation & Control Engineer:** Implement smart systems for home, industrial, and environmental automation
- ✓ **IoT Product Manager:** Manage lifecycle of smart products, from development to deployment
- ✓ **Smart Home Installer / Technician:** Deploy and configure consumer IoT systems

Rolasoft Technologies Services

Rolasoft Technologies – Services Offered

✓ **SOFTWARE DEVELOPMENT COMPANY**

(MOBILE APPLICATION, WEB APPLICATION, DESKTOP APPLICATION, CUSTOMIZED APPLICATION, E-COMMERCE WEBSITE)

✓ **PROFESSIONAL COMPUTER AND IT EDUCATION**

(TOP-UP PROGRAMS, DIPLOMA PROGRAMS, CERTIFICATE PROGRAMS, TECH @ SCHOOL, CORPORATE PROGRAMS, SIWES PROGRAMS, CUSTOMIZED PROGRAMS)

✓ **DIGITAL ADVERTISING AND BUSINESS BRANDING**

(SOCIAL MEDIA MARKETING, EMAIL MARKETING, CONTENT MARKETING, WEBSITE SEO, BRANDED CLOTHING, STICKERS AND TAG, CUSTOM BRANDING, AND MANY MORE)

✓ **INTERNATIONAL UNIVERSITY ADMISSION PROCESSING**

(AMERICA, UK, CANADA, EUROPE, AFRICA, AND MANY MORE)

Contact & Registration

 Phone: +234 8032867212, +234 8082171242

 Email: info@rolasofttech.com

 Website: www.rolasofttech.com

 Address: 2, Martins Street Off Ojuelegba Road, Yaba, Lagos State.

 **Enroll Today & Start Your Internet of Things (IoT) Journey!**

Shape your future with SIWES Internet of Things (IoT)